

Pending Claims

Claims 1-19 are currently pending.

Telephonic Examiner Interview

The Applicant wishes to thank Examiner Chorbaji for taking the time to discuss the pending application with the Applicant's representative on November 13, 2002. During the course of the Telephonic Interview, U.S. Patent No. 6,039,922 and the rejection under 35 U.S.C. §102(e) were discussed.

Rejection Under 35 U.S.C. §102(b)

The Official Action rejected claims 1-3, 9-13 and 17-18 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,039,922 *Swank et al.* (the '922 patent). The Applicant respectfully traverses the rejection. The '922 patent discloses a method and apparatus for sterilizing packaging. Col. 1, Lines 16-17. The '922 patent discloses a sterilization chamber 28 having a hydrogen peroxide applicator 30 and a pre-breaker 34. The sterilization chamber 28 also includes a hot air distributor 36, an ultraviolet radiation chamber 38 and a hot air distributor 40. Col. 4, Line 29 - Col. 5, Line 14. The hydrogen peroxide applicator 30 applies vapor-phase hydrogen peroxide to containers within the sterilization chamber 28. The pre-breaker 34 bends the containers after application of the hydrogen peroxide by the hydrogen peroxide applicator 30. The hot air distributor 36 then dries the container prior to entry into the ultraviolet radiation chamber 38 for irradiation. After the containers are

irradiated in the ultraviolet radiation chamber 38, the hot air distributor 40 dries the containers and flushes/removes hydrogen peroxide from the containers.

Independent claim 1 claims a method for sterilizing packaging sheet material. The method includes the operations of applying hydrogen peroxide to the packaging sheet material, removing the hydrogen peroxide and irradiating the packaging sheet material. Initially, the method applies hydrogen peroxide to the packaging sheet material. After application of the hydrogen peroxide of the packaging sheet material, the method removes hydrogen peroxide from a surface of the packaging sheet material while retaining a residual or trace quantity of hydrogen peroxide at any microorganisms. The operation of removing hydrogen peroxide from the surface of the packaging sheet material occurs after applying hydrogen peroxide and before irradiating the packaging material. Upon removing the hydrogen peroxide from the surface of the packaging sheet material, the method irradiates the packaging sheet material with light having at least one UV wavelength between about 200 nm and 320 nm. During the operation of irradiating the packaging sheet material, residual or trace quantities of hydrogen peroxide absorbed by or located adjacent to microorganisms present on the packaging sheet material are directly targeted with UV radiation.

The Applicant respectfully submits that the '922 patent does not disclose each and every element of the present invention claimed in independent claim 1 as required under 35 U.S.C. §102(e). More specifically, the '922 patent does not disclose the operations of first applying hydrogen peroxide to a packaging material, removing hydrogen peroxide from the surface of the packaging sheet material and then irradiating the packaging sheet material upon

removal of hydrogen peroxide from the packaging sheet material. Moreover, the '922 patent does not disclose removing hydrogen peroxide from the packaging sheet material and leaving a residual trace of hydrogen peroxide prior to irradiating the packaging sheet material. Likewise, the '922 patent does not disclose directly targeting residual or trace amounts of hydrogen peroxide on microorganisms present on the packaging sheet with UV radiation.

The Official Action alleges that the '922 patent discloses applying hydrogen peroxide to a packaging sheet material and then removing the hydrogen peroxide prior to irradiating the material with an ultraviolet light source. The Applicant respectfully submits that the '922 patent does not disclose the invention as claimed in independent claim 1 and alleged in the Official Action. As previously discussed, the '922 patent discloses applying hydrogen peroxide vapor with a hydrogen peroxide applicator 30 and then drying the hydrogen peroxide prior to the container entering into the ultraviolet radiation chamber 38. Therefore, the Applicant respectfully submits that the '922 patent does not disclose the limitation of removing hydrogen peroxide prior to irradiating the packaging sheet with ultraviolet light.

In addition, the '922 patent does not disclose leaving a residual trace amount of hydrogen peroxide on a packaging sheet prior to irradiation of the packaging sheet. The Official Action refers to column 2, lines 48-49 of the '922 patent, alleging that the '922 patent discloses removing hydrogen peroxide from a packaging sheet and leaving only a residual trace prior to irradiation. The Applicant respectfully submits that column 2, lines 48-49 of the '922 patent does not disclose removing hydrogen peroxide such that a residual or trace amount of hydrogen peroxide exists prior to irradiating the packaging sheet material. Instead, the

'922 patent discloses that removing hydrogen peroxide from the container such that a trace amount of hydrogen peroxide remains is the next " ...and possibly final step... " after subjecting the container to irradiation in the ultraviolet radiation chamber 38.

Furthermore, independent claim 1 claims directly targeting residual or trace quantities of hydrogen peroxide on microorganisms present on the packaging sheet material with ultraviolet radiation. The disclosure of the '922 patent teaches condensing hydrogen peroxide over a packaging container prior to treating the packaging container with ultraviolet radiation. During treatment with ultraviolet radiation in the '922 patent, a layer of hydrogen peroxide covers microorganisms present on the container, as opposed to trace or residual amounts, as claimed in independent claim 1 of the present application. As such, the '922 patent does not disclose the claimed feature of directly treating trace or residual amounts of hydrogen peroxide on microorganisms present on the packaging sheet material with ultraviolet radiation. Therefore, the Applicant believes that the '922 patent does not disclose each and every element claimed in independent claim 1 as required under 35 U.S.C. § 102(e). The Applicant respectfully submits that independent claim 1 is not anticipated by the '922 patent under 35 U.S.C. §102(e) and respectfully requests that the rejection be withdrawn. Dependent claims 2-3, 9-13 and 17-18 are also patentable for at least the same reasons as discussed above with regard to independent claim 1 and for the additional features they recite.

Rejection Under 35 U.S.C. §103(a)

In addition to the rejections under 35 U.S.C. §102(e), the Official Action also rejected claims 4-5, 7-8, 14 and 16 under 35 U.S.C. §103(a) as being unpatentable over the '922 patent. As required in Chapter 2143.03 of the Manual of Patent Examining Procedure, in order to "establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art" under 35 U.S.C. § 103(a). As previously discussed, the '922 patent does not disclose each and every element claimed in independent claim 1 from which claims 4-5, 7-8, 14 and 16 depend. Therefore, the Applicant believes that the '922 patent does not teach all the claim limitations of claims 4-5, 7-8, 14 and 16 as required under 35 U.S.C. §103(a). As such, the Applicant respectfully submits that claims 4-5, 7-8, 14 and 16 are not unpatentable under 35 U.S.C. §103(a) over the '922 patent and respectfully requests that the rejection be withdrawn.

In addition, the Official Action also rejected claims 6 and 19 under 35 U.S.C. §103(a) as being unpatentable over the '922 patent in view of U.S. Patent No. 5,843,374 to *Sizer et al* (the '374 patent). As discussed above, the '922 patent does not disclose each and every element claimed in independent claim 1 from which claims 6 and 19 depend. Thus, the Applicant believes that not all the elements claimed in claims 6 and 19 are taught or disclosed in either the '922 patent or the '374 patent as required under 35 U.S.C. §103(a). The Applicant respectfully submits that claims 6 and 19 are not unpatentable over the '922 patent in view of the '374 patent under 35 U.S.C. §103(a) and respectfully requests that the rejection be withdrawn.

In addition to rejecting claims 6 and 19 under 35 U.S.C. §103(a), the Official Action also rejected claim 15 under 35 U.S.C. §103(a) as being unpatentable over the '922 patent in view of U.S. Patent No. 4,225,556 to *Löthman et al* (the '556 patent). As discussed earlier, the '922 patent does not disclose each and every element of claim 1 from which claim 15 depends. Thus, the Applicant respectfully submits that claim 15 is not unpatentable over the '922 patent in view of the '556 patent under 35 U.S.C. §103(a) and respectfully requests that the rejection be withdrawn.

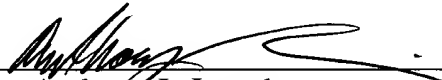
CONCLUSION

For all of the above reasons, the Applicant respectfully submits that the present application is in a condition for allowance. The Examiner is urged to allow the claims and pass the application to issue. Should the Examiner have any questions, the Examiner is invited to call the undersigned attorney at the number listed below.

Respectfully submitted,

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